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THE AUTOMOBILE

WEEKLY

NEW YORK—SATURDAY, MAY 16, 1903—CHICAGO

10 CENTS

Long Island Automobile Club.

First Auto Organization in the Metropolitan District of New York to Occupy a House Exclusively as a Club, with Storage and Repair Facilities.

THAT Long Island, for many years familiarly known as the "Cyclists' Paradise," should, with the advent of the motor car, require the still more widely known reputation of being the "Automobilists' Arcadia," seems but natural. With its hundreds of miles of finely built and scrupulously maintained macadam highways, it

has from the first been the Mecca for thousands of those who enjoy the sport. Its fame is far-reaching and its praises are spoken "wherever two or three are gathered together," and pleasant memories are revived or plans for future tours are discussed. "Out on Long Island" has come to be synonymous of good roads

and beautiful scenery. But for Long Island New York would have no harbor, and there would be no Long Island Automobile Club.

On October 16, 1900, there appeared in a Brooklyn daily a call signed by Louis R. Adams for all of those interested in the subject of organizing an automobile



MEMBERS' ROOM OF THE POPULAR NEW HOME OF THE LONG ISLAND AUTOMOBILE CLUB.

club to meet at his office. The note sounded by Mr. Adams found responsive chords in the hearts of three enthusiasts, who met with him and who organized temporarily. Upon the appearance of a second call, three additional enthusiasts presented themselves, and from the seven five were chosen as incorporators, and a charter applied for. This was speedily granted and the club was launched early in November, with seven charter members and a full working board of officers and chairmen of committees. None of the committees was given more prominence than the Good Roads Committee.

At the time of its organization the club took a census of automobile owners in the city of Brooklyn. The net result was about ten who openly claimed ownership and several "dark secrets." The veil of secrecy has gradually been lifted, and now, though no man knows, many estimate the number at from 500 to 1,000.

The early spirit of the pioneer in seeking a home was evidenced at the first meeting after organization, when club quarters, including assembly, storage and locker rooms, were secured at 552 State Street, near to the business center and but a short distance from Prospect Park and the comprehensive suburban boulevard system. That the choice of location was wise was then and has since been practically demonstrated.

The enrollment of members proceeded in a most gratifying manner, and all branches of the club's activities were in full swing and interest was kept at fever heat by the quick succession of "smoke talks," "experience meetings" and stag entertainments. Club runs were of weekly occurrence, and it was unusual to visit the club at any hour of the day or night without finding some "gentleman mechanic" in overalls and jumper flat on his back gazing into the vitals of his automobile or apparently standing on his head squirting oil into some inaccessibly placed oil cup.

The club then, as now, was not only frequented by the dyed-in-the-wool automobilist, but by the recently inoculated, who naturally gravitated to the center of interest, where he might see, hear and smell, with the result that he went and did likewise.

With the club an established institution safely beyond the pitfalls, surplus energy found vent in the promotion of the first endurance run held on American soil and under American conditions. On April 20, 1901, after weeks of laborious preparation, there occurred over one hundred miles of Long Island highways, under climatic conditions calculated to try the hardest constitution, a test of motor cars that attracted attention not only to Long Island, but to its automobile club.

The pioneer work then commenced has been followed up in other branches of the sport with the proud result that the Long Island Automobile Club claims the distinc-

tion of having promoted the first hill-climbing event and the first mile straight-away races held on public highways in this country, these latter events being held on April 20 and November 16, 1901. The record made by Henri Fournier on the Coney Island Boulevard, under the auspices of this club, still stands, and speaks volumes for the character of the highway and for the aggressiveness in making the event possible.

The Long Island Club's existence has not always been on beds of roses, nor has it always been blessed in the possession of club quarters so comfortable as those first occupied or so luxurious as those which it is now proud to call its own, but whatever has happened to the club during its brief term of years, be it truthfully said that there have been no strifes or internal disputes. Harmonious action for the best interest of the club and the sport

floor, and ample club facilities on the second. The second floor has been decorated and equipped in a manner to appeal to the home-loving and artistic sentiment of the members and their guests. Here can be found opportunities for the fullest enjoyment of club life and good fellowship. Cozy corners, mission and Flemish effects, swinging seats, piano, pool and card tables, a grill room flanked by a most complete kitchen nightly presided over by a steward who can concoct the edible Long Island rarebit, or please the taste and satisfy the appetite with an L. I. A. C. sandwich.

The great popularity of the club may be attributed to the fact that the women have been provided for in many ways, and that every night but "club night" (Wednesday) is "ladies' night." It is now the regular and accepted practice to use the club facilities for after theater parties. Located as it is, but three blocks from the theater center, the members leave their cars in the club garage, go to the play and return for a bite, rather than patronize the crowded restaurants in the neighborhood. This feature has done more to stimulate club interest and inject a wholesome growth than any other single act of the board of governors. It is recommended to other clubs in the hope that their experiences may prove as happy and profitable as that of the Long Island Club.

Rare, now, is the meeting at which from two to six candidates for admission are not balloted for. The club house is accessible day or night, as there is an attendant on duty during each of the twenty-four hours, who is ready to lend a hand at repairs, or wash and lubricate cars. Members of other clubs and unattached automobilists are at all times welcome, and they are urged to call and avail themselves of the club's hospitality. Members are charged a nominal sum for storage, and a small fee for cleaning and lubricating. A bench and vise and an assortment of small tools, together with fuel and lubricating oils, make light the care of the motor car and gladden the hearts of the club members. To each member who regularly stores his car is assigned a numbered space and a commodious locker for robes, tools, batteries, small parts and "plunder."

Touring in this "Automobilists' Arcadia" is rendered still more enjoyable for members of the club through reciprocal arrangements consummated with clubs on Long Island whose objects are golf, yachting and field sports. The crimson and gold pin of the L. I. A. C. means open hospitality and the utilization of club facilities at various points on "The Island."

The efficient house and entertainment committees are now devoting their energies to the upbuilding of the Long Island Club, in the anticipation of renewed "hostilities" during the fall. A series of club matinees and a day of track events at



FRONT OF L. I. A. C. HOME.

has been the club's slogan. Without this harmony the brilliant past of the club would not, could not, have been possible. The true democracy of the club was shown in its demand for an association, national in character, but based on representation. Its true loyalty to its sister club in Manhattan was demonstrated when it declined to lend its voice and support to the launching of a national association without its sister club. This same broad policy has shaped its actions at all times.

The club has been variously housed, in rooms on Bedford Avenue, in the Lincoln Club on Putnam Avenue, and now in its own house at 32 Hanson Place, but one block from its original location. Its present quarters are comprehensive and luxurious. The building, 25 by 80 feet and two stories high, affords storage for about twenty-five members' cars on the first

May 16, 1903.

THE AUTOMOBILE.

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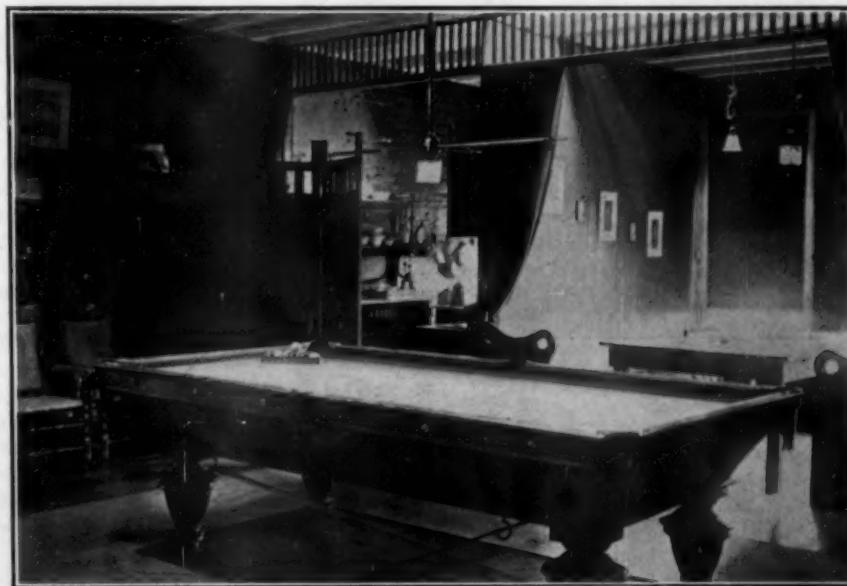
Brighton Beach in September are now being planned. These, together with weekly club runs and a decorated and floral parade to be held on May 23, have contributed to the club's recent activities, and will provide spectacular events of interest to the general public.

Commercial Advancement Due to Racing.

In 1899 Renault Brothers, of Billancourt, France, produced 76 automobiles, mostly of 1 3-4 horse power and air-cooled motor. In 1900 the power was increased to 3 1-2 horse power with water cooling. To take care of the latter the thermosiphon system was adopted, which depends upon the natural tendency of a body of water to reach the same temperature throughout when heated at one place, without the aid of a circulating pump. As this system requires a large radiation area, the vertical radiators on both sides of the motor were devised, and this system is still employed, although it does not afford the ready access to the motor rendered possible when the radiator is in front. During 1900 the firm sold 350 of these 3 1-2 horse power cars and employed about one hundred workmen. This number of cars and of workmen was doubled in 1901, but the power was increased to 4 1-2 horse power, while the construction otherwise remained the same as in 1900; that is, it embodied the main Renault features: single-cylinder motor, vertical in front; natural water-cooling with side radiators; direct driving on the high speed; sliding gear for two reduced forward speeds and the reverse; power

the Paris-Bordeaux race. Similar ones took part in the Paris-Berlin race of 1902. In both races the cars proved themselves very reliable, and about 600 orders were received after the Paris-Berlin race. The capacity of the factory had been corre-

took to build a 20-horse power four-cylinder motor for the Paris-Vienna race. One of the cars equipped with this motor won the race. The immediate result was the rebuilding of the factory with an installation of machinery providing for a



LONG ISLAND CLUB'S BILLIARD SECTION, GRILL ROOM AND KITCHEN.

spondingly increased. In the beginning of 1902 four hundred workmen were employed. At the Salon in December, 1901, cars of 6 and 8 horse power appeared, in which the frame was lengthened and built of steel tubing, and the speed changes were controlled by a single side lever. Wood wheels were substituted for wire wheels. These new models (1902) ob-

yearly capacity of 1,000 vehicles. But for the light car for ordinary use the Renault Brothers continue to advocate one- or two-cylinder motors. Their two-cylinder motor is of 10 horse power.

To Sound Makers on Moving Exhibit.

The proposed "moving exhibit" of automobiles at the St. Louis Exposition was discussed at a meeting of the executive committee of the National Association of Automobile Manufacturers held on May 5 and it was decided to ask the members individually whether or not they favor the plan of maintaining machines at the fair for demonstration purposes in the Stadium and exposition grounds before a definite conclusion is reached by the association.

At the same meeting F. S. Fish, of the Studebaker Bros. Mfg. Co., presented his resignation as a member of the executive committee, which was accepted, and Will R. Innis, New York representative of the same company, was elected to fill the vacancy.

The new Pope Mfg. Co. was elected to active membership and the Official Automobile Blue Book to associate membership.

The City Council of Beloit, Wis., has been asked to grant a franchise to a company that proposes to operate motor coaches over several routes on the streets. Beloit has no electric railway system, although one interurban line passes through the city and the motor stages are designed to fill the vacancy.



READING TABLE, PIANO AND CORNER OF OFFICE IN LONG ISLAND CLUB.

transmission by longitudinal bevel-gear shaft with cardan (universal) joints.

This construction appeared again later in 1901 with motors of 8 and 9 horse power. The first of these were made for

tained the first three prizes in the contest then organized by the French Ministry of Agriculture.

Up to that time De Dion-Bouton motors had been used. Now the firm under-

Care and Operation of the Electric Vehicle.

Another example of progressive methods adopted by a manufacturer of motor vehicles in the spread of information for automobile users is a neat little booklet gotten out by the National Vehicle Co., of Indianapolis.

This concern, as is well known, builds electric vehicles and while the booklet is nominally intended to discuss the "care and operation" of its own cars, yet it has been compiled apparently in a broad spirit that makes the suggestions given of value to the user of other types of electric vehicles. In a short introduction the author explains his motive in these truthful words: "The knowledge of *why and how* certain simple things must be done is as essential to the vehicle user as the knowledge, usually given in a set of rules without explanation, that they must be done." It is a common assumption on the part of the builder that a few "musts" and "don'ts" will enable the purchaser of a motor car to intelligently get the best results. As a matter of fact the more intelligent the user the less likely is he to be satisfied with blind instructions, and frequently he will intentionally disobey some of these so as to get at the underlying causes—to the detriment of the machine. First in the list of subjects treated is the vital element of the electric vehicle—the storage battery.

STORAGE BATTERIES.

The storage battery is the source of power of an electric vehicle, and consequently requires more attention than any other part of it.

The storage battery of an automobile usually consists of forty rubber cells or jars varying in size according to size of the vehicle and containing lead plates immersed in a dilute solution of sulphuric acid. In forming these plates into a battery, an electric current is passed through them for a period of time, the positive wire carrying this current being attached to half the plates and the negative wire to the other half, and by the action of this current the plates finally become what is called positive and negative, and show a certain amount of electric pressure between them.

In some batteries the number of positive and negative plates is equal. In others, an extra negative plate is used. These plates are arranged alternately so that each positive plate faces a negative a short distance away, with perforated rubber sheets or other separators between to prevent contact. Should an examination be necessary, these plates can be distinguished from each other by the reddish coloring of the positives, while the negatives will be dull gray. Unless, however, a cell becomes broken, there is rarely any occasion to open it, and if for any reason it requires overhauling, it would be bet-

ter to place it in the hands of an electrical repair man. Like shoeing a horse, you may understand the theory of the operation, but a man accustomed to the work would be likely to secure better results.

When a battery is charging, the current enters the positive plates, passing through to the negatives. When the vehicle is in operation and the battery is discharging, the direction of the current is reversed.

To charge the vehicle, see that the controller handle is in a vertical or the "power off" position; place the charging plug in the receptacle under the rear of the body, throw in the switch and then regulate the flow of the current by the use of the cut-out and observation of the meter attached to the vehicle. Never move the controller handle while the vehicle is charging. To charge at the lowest rate, the cut-out is not used. To increase the rate insert the cut-out between the coils, bridging across from one coil to the other. The nearer the top of the coils it is placed the higher will be the charging rate.

The capacity of a storage battery is rated in ampere hours.

This particular concern manufactures two sizes of batteries; one with a discharging capacity of about 65 ampere hours, and the other about 80 ampere hours. If discharged at a higher rate the total quantity of current obtainable will be less, and if at a lower rate, it will be greater. The normal charging rates are 15 amperes for the smaller battery and 20 amperes for the larger. A lower rate can be used if desired, and, in fact, a low rate is recommended, except when the battery is quite low at the beginning of the charging. In such instances the charging can start at 5 amperes above the normal rate and continue for an hour.

AVOID HEATING THE BATTERY.

To determine when the battery is full, adjust the resistance to 8 amperes and the volt meter on the vehicle should read 106 volts if the charge is complete. After disconnecting this will rapidly drop to between 84 and 88 volts, the normal voltage of all batteries, regardless of size, being a fraction over two volts per cell.

It is always desirable to charge the battery until full immediately after use, and the battery should never be allowed to stand discharged, as this will cause it to sulphate.

The action of sulphating is caused by an attack of the acid on the lead of the plates, forming sulphate of lead—a white salt. This sulphate covers the active material and if allowed to continue damages the plates.

If a battery is to remain idle for a long time, it should be charged once a week until the meter shows it full. If such charge is impossible, draw off the liquid,

refill the cells with water, discharge fully and then draw off the water. Refill with water again, and after standing a few hours, draw off the water once more. To again put the battery in use, refill the cells with solution and charge at one-half the normal rate for 15 hours.

In operation of the vehicle, do not discharge the battery below sixty-eight volts, preferably not below seventy.

To keep the cells in good condition, it is desirable to give the battery an overcharge of three hours at one-half normal rate after it is full, about once each month.

It is desirable to open the body of the vehicle when charging, especially when overcharging.

Do not use an open light about the battery when it is charging.

The dilute sulphuric acid in the cells is called electrolyte, and is obtained by mixing C. P. sulphuric acid with pure water (never use commercial acid or impure water) about one part acid to four parts water, pouring the acid into the water—never the reverse. This should be allowed to stand until cool, and when cool should show a specific gravity of 1,200 specific gravity scale or 25 degrees Baume scale. The test must be made with a hydrometer. When the battery is fully charged, this specific gravity is greater than when discharged and the normal specific gravity of the electrolyte in a charged battery should be about 1,250, never greater, and the electrolyte in all cells should be equal.

The tops of the plates in each cell should always be covered with electrolyte and the battery should have a weekly examination to make sure of this condition. Constant evaporation takes place, and as the loss is mostly water, the cells should be replenished with a very weak solution mixed about ten parts water to one part acid and an occasional hydrometer test should be made of the electrolyte to see that it is of proper specific gravity. For filling a rubber bulb syringe is used. Cells must not be filled too full, as it is essential that slopping over be avoided.

If the connections around the trays become sulphated, wash them with strong soda and water and paint over with melted paraffine. If terminals corrode sand paper them in order to maintain good contacts.

THE ELECTRIC MOTOR.

Motors are thoroughly encased and protected from moisture and dust. The bearings are self-oiled and do not require attention oftener than every two or three weeks, when the plugs should be unscrewed from the bottom of the oil reservoirs under the journals and the reservoirs emptied. Then refill through the oil cups with fresh dynamo oil, being careful not to overrun.

The cover over the brushes of the motor should occasionally be removed and any oil or dirt that may have accumulated on the commutator wiped off. If the surface

is dull and black, clean with fine sand-paper. Never use emery cloth. See that the brushes are wearing evenly and are well seated on the surface of the commutator.

In hilly localities, where the brake is put to much severe use, it is well to occasionally observe the wear of the brake-band so that it may be replaced before reaching the breaking point.

ECONOMICAL SPEED.

It will be remembered that at a low rate of discharge, a cell has greater capacity than at a high rate, hence the second speed is the most economical and will run the vehicle a greater distance than any other. As the second speed averages about eight miles per hour and is steady, a vehicle operated on this speed covers more ground in a given time than the ordinary horse and is recommended to those not fond of a racing gait.

Care should be used at first to throw the controller just one notch at a time. Never let it stop between notches, as this

age will drop very rapidly after reaching 75 and it should not be allowed to drop below 68 if avoidable.

On bad road surfaces and grades the ammeter will indicate an increase of current above the normal, which will, of course, shorten the usual radius of action, and the amount of this increase and the time occupied will be an additional help in determining the state of the battery at any given time.

Should the ammeter indicate an unusual increase of current above the normal, with favorable road conditions, it will probably be found that oil is needed somewhere.

Clubhouse and Grounds of Buffalo Park Club.

The accompanying engraving shows the home of the new Park Club, which is composed of Buffalo's society automobilists. This club, which may boast of having its membership list filled and a waiting list of more than twenty applicants before the

and many are anxious to become members of this club and to participate in its events.

The picture shows some of the Pan-American Exposition buildings. In the background, shorn of its beauty and partially razed, is the Temple of Music, where the late President McKinley was shot.

It is the intention of the club officers to lay out some fine flower beds and gardens around the chariot group.

The Nerve of a Motorist.

Special Correspondence.

BUFFALO, May 9.—The consideration of an automobilist for the safety of others was displayed a few days ago in Buffalo by Walter F. Simons, who, while lying seriously injured after being precipitated to the ground by an accident, was told by an onlooker that the machinery of his automobile was still in operation. Asking someone to help him to his feet, Mr. Simons walked to the machine, stopped the engine and then dropped in a dead faint. A little later an ambulance arrived



HOUSE AND GROUNDS OF THE PARK CLUB, BUFFALO—PAN-AMERICAN EXPOSITION BUILDINGS IN BACKGROUND.

will cause sparking, corroding the blades and springs and causing them to stick. Should the operator by accident produce this result, clear out the corrosion with a thin file. It is well to practice handling the controller a little without the power on. One can soon discover in this way by feeling whether he is working right or wrong.

METERS.

A combination volt and ammeter is attached to each vehicle conveniently located for observation at all times when the vehicle is in operation or when standing idle. It shows the rate of charging and discharging and the voltage of the battery. No explanation is necessary to enable the operator to read it understandingly.

By watching the volt meter and noting the distance traveled for a time, the operator will gain experience that will enable him to estimate reasonably what distance it will be safe for him to undertake at any condition of the battery. The volt-

clubhouse was secured, has just leased the grounds and purchased the building. The clubhouse was formerly the Country Club house, and later the Women's Building of the Pan-American Exposition, and the ground on which it stands was owned by the Rumsey estate. The lease was signed recently after prolonged negotiations. The Pan-American Exposition Company owned the clubhouse, on which it made improvements alone costing \$6,800. The terms of the lease and of the purchase are kept secret.

The location of the clubhouse is a splendid one. It is surrounded by spacious grounds and excellent boulevards and roads which afford exhilarating riding. The handsome heroic statue group which stands in front of the building has also been purchased by the club and will be repaired and repainted.

A meeting of the board of governors will be held in the near future to pass upon the report of the membership committee. Society folk are interested in automobiling,

and removed him to the Emergency Hospital, where it was found that he was suffering with a shattered elbow, a broken forearm and a crushed chest.

Two young women who had been riding with him, though badly shaken up, returned to their homes, refusing to divulge their names.

The accident occurred through the carelessness of a man operating another automobile. He tried to pass between Mr. Simons' machine and the curb on his right. There was a crash and Mr. Simons' automobile swerved quickly and upset, throwing the occupants to the pavement.

Dead Beat.

He owned a machine that was built to beat the wheels of all creation;
But he tried to beat a policeman's beat—

Was beat and went to the station;
The copper beat him along this beat,

"You're a beat!" with indignation;
And when the reporter secured the beat,

He made it a great sensation.

Searchmont Gasoline Car, Model VII.

Although they have been on the market a relatively short time, the cars built by the Searchmont Automobile Co., lately

The speed-changing mechanism is of the sliding gear type, and gives four forward speeds and reverse. Unlike most similar

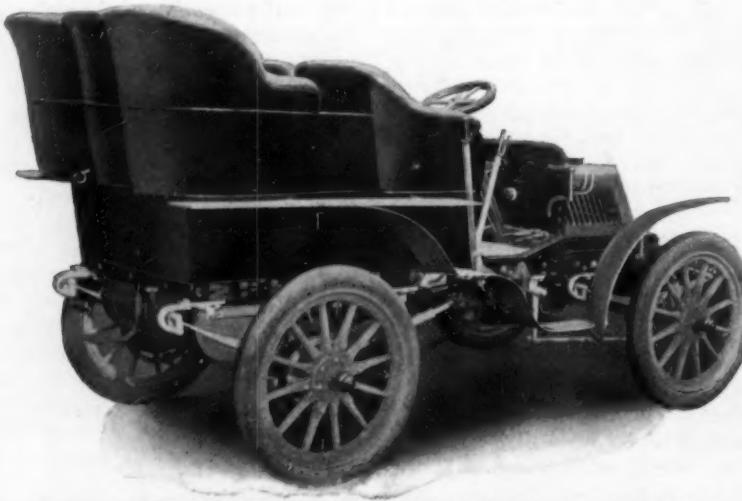


FIG. 1—SEARCHMONT 10-H.P. VERTICAL MOTOR TONNEAU CAR.

known as the Fournier Searchmont Automobile Co., have made an excellent record in point of general reliability, and in the eastern endurance and reliability runs last year they gave a most creditable account of themselves. The 1903 model Searchmont car, like that of last year, is patterned on French lines, and its principal features are indicated in the illustrations and description herewith.

The frame is built up of ash strips, reinforced on the inside surface with steel flitch plates. A false frame of 1 1-2-inch by 1-4-inch angle iron carries the motor and change gearing, and supports the base of the steering column as well. The motor has two cylinders, of 4 1-2 inches bore by 5-inches stroke, with the cranks set opposite, and is rated at 10 horse power. It has automatic inlet valves, and the exhaust valves are lifted by the mechanism shown in Fig. 4. The lifters, or push rods, are contained in light castings, with their own springs, separate from the valve springs, to keep the rollers on the cams, and the castings themselves are readily removable. The valves have a clear opening of 1 5-8 inch diameter, and are made of a nickel alloy to protect them from scaling and warping.

The connecting rods are of forged steel, and the crank case has four doors to render its interior accessible without dismounting. All the gears, including the pump gears, are encased. The total weight of the motor, pump, vaporizer and piping is 345 pounds.

A cone clutch of the ordinary type works in the flywheel. It can be removed by slipping the collar forward and dropping the clutch shaft down, which permits the clutch leather to be repaired or renewed without moving other parts.

mechanisms it is disposed with the countershaft at its front instead of its back end, thus increasing measurably the weight available for tractive purposes. The four speeds are operated in their order by one lever, and an interlocking mechanism prevents shifting of the gears when the clutch is in. From the countershaft the power is transmitted through Oldham couplings, to allow for springing of the framework, to short outboard shafts carrying the sprocket pinions.

The governor, seen at the front of the engine in Fig. 3, acts on a throttle valve contained in the carburetor, Fig. 5. This carburetor is of the float feed type, with gauge strainers *A* just above the needle

up and down by connection with the governor through the bellcrank outside, contains a slot *G*, which registers to a greater or less extent with *E* when the box is raised. The hood *D* is attached to the box and moves with it, and the net result is to give the air a larger passage in the hood when the throttle aperture *E* is wide open than when nearly shut, thus preventing the mixture from being too rich, with an open throttle or too lean with a nearly-closed throttle. The accelerator pedal under the right foot assists or retards the governor's action, thus fixing the speed at which the latter acts.

Ignition is by jump spark, with vibrators on the coils. A special feature of it is the insertion in the primary circuit of a circuit-breaker in the steering wheel, where the operator can interrupt the ignition from moment to moment, when maneuvering in traffic, instead of releasing the clutch. The construction is seen in Fig. 6. A flat spring *H* is mounted on the under side of one of the spokes, but insulated therefrom, and it bears against a metal pin *I* in metallic connection with the spoke. The circuit is broken by pressing a rubber button *J*. Pin *I* is removable, and when it is taken out the machine cannot be started. Ignition is advanced or retarded by hand. A dynamo furnishes the current, with a battery for starting.

Provision for cooling the cylinders is made on an unusually liberal scale. The water tank holds 14 gallons, and the cooling surface of the radiators is very large. A gear pump is attached to the crank-case and driven direct from the motor shaft.

Lubrication is effected mechanically by means of a plunger pump driven from the cam shaft. The several feeds are sepa-

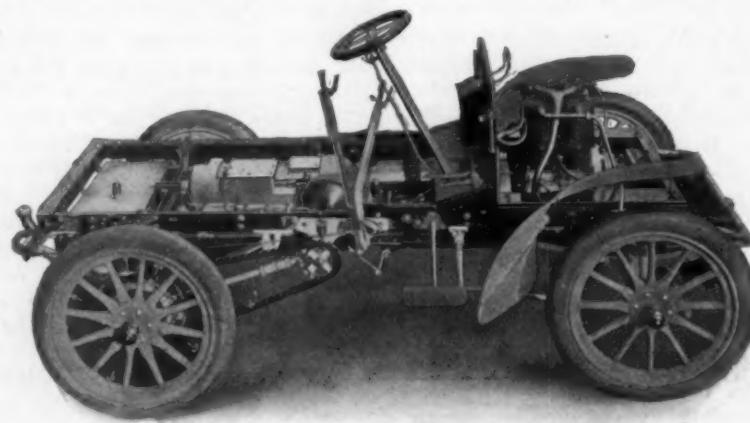


FIG. 2—CHASSIS OF SEARCHMONT CAR. MODEL VII.

valve by which the gasoline enters, and a clean-out plug *B* at the lowest point. The air is drawn in at *C*, and passes upward inside the cone-shaped hood *D*, taking up the gasoline as it goes, and passes out through the rectangular aperture *E*, dotted in the figure. A sort of box *F*, movable

rately adjustable, and once set do not need to be changed.

The forward speeds are given as 7, 16, 24 and 32 miles per hour, with a 6-mile reverse, and the motor speeds, with the aid of the accelerator pedal, as from 250 to 1,200 revolutions per minute. The

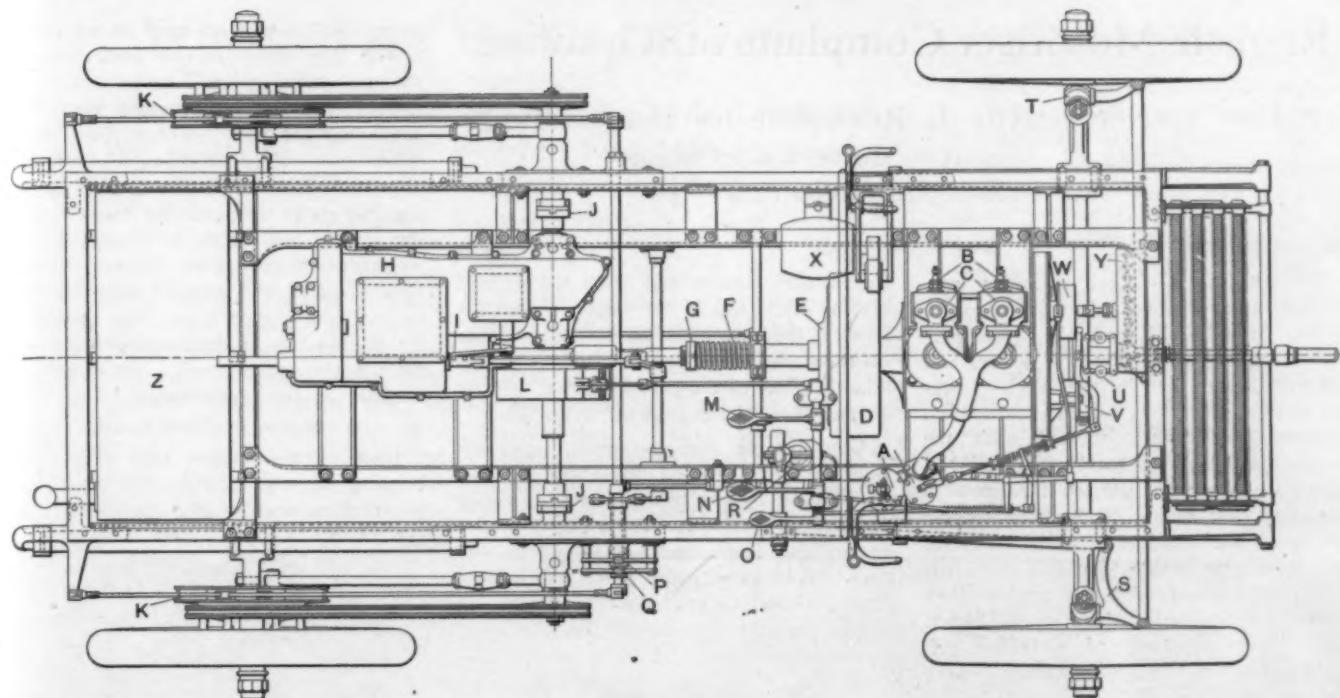


Fig. 3—PLAN VIEW OF CHASSIS OF MODEL VII SEARCHMONT TOURING CAR, FITTED WITH TWO CYLINDER TEN HORSE POWER GASOLINE ENGINE AND CHAIN DRIVE.

A, Vaporizer.
B, Spark plug.
C, Admission Valves.
D, Flywheel.
E, Clutch.
F, Clutch spring.
G, Adjusting nut.

H, Transmission gear case.
I, Interlocking lever.
J, Oldham couplings.
K, Hub brakes.
L, Countershaft brake.
M, Clutch pedal.
N, Brake pedal.

O, Accelerator pedal.
P, Gear shifting lever.
Q, Hub brake lever.
R, Steering gear case.
S, Steering bell crank.
T, Steering knuckle.
U, Governor.

V, Water pump.
W, Commutator.
X, Dynamo.
Y, Mechanical oiler.
Z, Water tank.

wheel base is 81 inches, the gauge 56 inches, and the wheels are 32 inches diameter, with 3 1-2-inch tires. The gasoline tank holds 19 gallons.

Famous European Designers Found at Fault.

Those who were coming to believe in the infallibility of Mr. Maybach, Mr. Jelli-

Paris, for example, the speed-changing lever has the old lateral motion for effecting the reverse, the two slots in the quadrant still remaining, and the new engagement clutch operated by a spirally rotated sleeve has also been abandoned. Mr. Lemaitre, of the De Diétrich Company, who recently arrived in New York with one of his new models to look over the American field for the sale of these cars, stated that the 1903 Mercedes was equipped with exactly the same speed-changing gear as the De Diétrich cars, namely, a modified sliding gear known as the Turcat-Méry,

and made under royalty to the designers whose names it bears. This, too, would indicate a change from the construction originally contemplated for new Mercedes models. For all that, these much mentioned automobiles proved themselves a highly superior article at the recent racing events at Nice, La Turbie and Monte Carlo.

The request of Commissioner Woodbury, of the Street Cleaning Department, in New York City, for a new gasoline

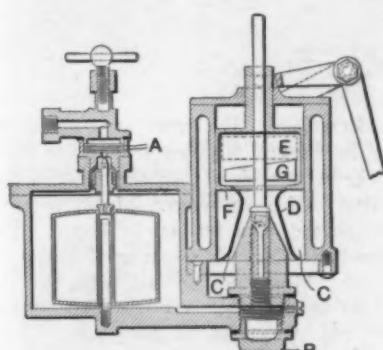


Fig. 5—THE CARBURETER.

neck and the other engineers responsible for Mercedes construction have received a rude shock in the information that the Cannstatt Company has found it necessary to discard most of the new features of their 1903 model and return to those of 1902. This information comes simultaneously from several sources. According to a correspondent who looked over E. Gray Dinsmore's 60 horse power car in

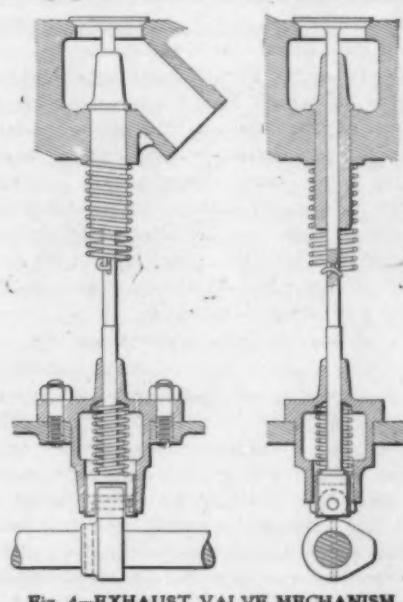


Fig. 4—EXHAUST VALVE MECHANISM.

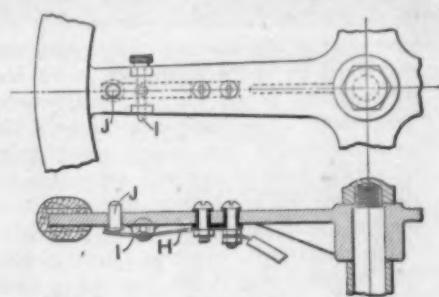


Fig. 6—STEERING WHEEL CUT-OUT SWITCH.

automobile with four seats to be used by him in the work of the department, has been granted by the Board of Estimate. The power vehicle greatly facilitates the work of inspection.

More than 1,000 automobile licenses have been taken out at Trenton by New Jersey motorists in compliance with the new license law.

English Motorists Complain of Gasoline.

Say Low Specific Gravity Is Responsible for Decreased Efficiency of Motors—Motor Cycle Boom to Follow Improvements.

Staff Correspondence.

LONDON, May 2.—There is still a considerable scare with regard to the petrol, or as you have it with you, the "gasoline," which has been supplied to oil dealers and automobilists of late by the Anglo-American Oil Co. Mr. S. F. Edge and Mr. Chas. Sangster, the first connected with the Napier Co. and the second with the Ariel Motor Co., have circularized the press to the effect that owing to the low specific gravity of the gasoline supplied to them, they have been unable to obtain the usual brake horse power from the engines they construct when testing them on the bench.

Mr. Sangster speaks of a falling off of quite 20 per cent. in efficiency, which disappeared directly the spirit supplied them by a firm known as Messrs. Carless, Capel & Leonard was used. Now Pratt's—the gasoline supplied by the Anglo-American Co.—motor spirit has much the larger use because heretofore it has been equally good, and is moreover put up in much more conveniently shaped and handable cans.

Such announcements as those I have quoted and coming from two such men, have greatly fluttered the dove coets of automobilism here, with the result that there has been a wholesale run on densometers, an instrument which automobilists were beginning to forget all about. At present the Anglo-American Co. has made no public reply to the indictment, but I am credibly informed from the best sources that it does not admit having sent out gasoline of a greater specific gravity than, say, .715.

The standard here has always been held to be .680, but that figure was more or less arrived at in the days of surface carbureters, when an easily volatilizing spirit was required and before the day of atomizing carbureters. The Anglo-American Oil Co. contends that it has never issued spirit which has been in any way unsuitable for use in internal combustion engines, and at present the subject rests in this position.

The matter has, however, caused a good deal of discussion at the Automobile Club, and the use of alcohol in place of gasoline has been very liberally canvassed. There is no doubt but that the question of the surcease of the gasoline supply must sooner or later be faced, particularly as I understand that your Standard Oil Co., which is our Anglo-American Co., is fairly well put to it to supply the world's demands for gasoline as it exists at present.

The adoption of alcohol or a percentage of alcohol and gasoline for use with road-car propelling internal combustion engines, would assuredly greatly aid the English and

Continental farmer, and from the success which has attended the alcohol tests in France, there is little doubt but that the manufactured might easily be brought to take the place of the natural spirit.

PEDESTRIANS SPLASHED WITH MUD.

Considerable feeling against automobilists is being stirred up in the suburbs of London by the unhappy mud slinging from the wheels whenever a car is driven at anything like speed over a puddlesome road. And as we suffer more than a little from puddlesome roads in this too lachrymose climate the outcry of suburban womanhood is making itself felt. With a car running at anything like reasonable speed on average sized pneumatic tires the liquid mud, when the wheels pass through a puddle, is thrown out sideways at right angles from the vehicle to about 20 feet on each side, so that even if the vehicle is running in the center of a 30-foot suburban road, the unfortunate foot passengers on both sidewalks get covered with filth. When this happens on Sunday mornings, just as suburban femininity in its best bib and tucker is heading off to church, the scene and after comments may be left to the imagination. Some light form of hanging screen to arrest the flight of the mess almost as soon as it is off the ground will have to be devised.

THE DUST PROBLEM AGAIN.

Considerable inconvenience and disappointment has been caused to those who are awaiting delivery of the Clement cars, for which they placed orders in the beginning of the year, by reason of the fact that the magneto ignition and mechanical clutch shown on the sample cars at the French and English exhibitions have both been found unsuitable to place in the hands of the average motor car driver. Consequently all the Clement cars to be issued this year will be fitted with jump-spark ignition and the ordinary form of cone clutch. Personally I think those who take these cars will be the better off for what on the face of it looks like a retrogressive step.

RETROGRESSION FOR SIMPLICITY.

There is no doubt that the choking pall of dust raised by a fast car is responsible for much of the antipathy of the folks of the country-side to motor cars. And yet I regret to say that little or no attention is being given to the solution of the problem on this side. It is true that the occupants of the vehicle can be adequately and effectively protected from the nuisance, but it is the pedestrians and

other road users who must be considered.

The later types of low built cars with under frame petrol tanks and large silencers are great offenders in this respect, for the cloud of dust they stir up when running at anything like speed is absolutely appalling. The club I regret to see has quite dropped the matter and I am rapidly coming to the conclusion that we must look across the Atlantic for some device which will grapple with the difficulty. Surely such a problem should not be unsolvable by human, most particularly American, ingenuity, which at times borders on the superhuman.

MOTOR CYCLING BOOM.

However the matter may shape or is shaping on your side there is little doubt but that we are in for a big boom in motor-cycling in this country. The little machine has been so vastly improved and cheapened of late that it opens the doors of self-propelled locomotion to a vast public, who have neither the time, conveniences or money necessary to the ownership of a car, however small. Many extraordinarily successful runs were made on these speedy little machines during the Easter holidays, non-stop runs of 100 to 150 miles having been quite common occurrences.

AMERICAN BUILT MACHINES.

The American made motor bicycles, which at one time looked as if they were about to command the market here, seem to have missed the public taste, which is being met in a most praiseworthy and energetic manner by the British makers. It is on the matter of frames and brakes that the American bicycles here at present fail to find favor with the English public.

Motor cyclists on this side like plenty of wheel-base, nothing less than 54 to 56 inches will suit them. Trussed and guyed front forks and very stoutly built frames. The engines now being fitted vary between 2 and 2 3-4 horse power, the latter being nearly always provided when it is intended to haul a trailer or propel a forward carriage. The latter are coming rapidly into favor, as they enable the driver of the motor bicycle to see what is happening to his passenger, of whom, when transported in a trailer, he is apt to become somewhat oblivious until a wild yell informs him that he has shot his live freight at a corner.

If the American trade desires to cut into the rapidly increasing British demand for motor bicycles, they will have to export machines made in conformity with English requirements or they will assuredly miss the market.

With Some Automobiles.

"How far can you run your machine on a gallon of gasoline?"

"That's mighty hard to say."

"Why?"

"How far could you drive a pair of balky mules on half a bushel of oats?"

Winton Tries His Cup Racer.

Drives the "Bullet II" Around Glenville Mile Track Fifty-Two Times in An Hour—Covers One Mile in 1:02, Breaking Previous Record—Complete Details of Construction.

Special Correspondence.

CLEVELAND, May 9.—The veil is lifted; mystery no longer exists. The racing machine which Alexander Winton has been building during the past six months for the Gordon Bennett race, and on which American enthusiasts pin their faith, has been publicly tried and not found wanting. On track and on road the "Bullet No. 2," as it is named, has de-

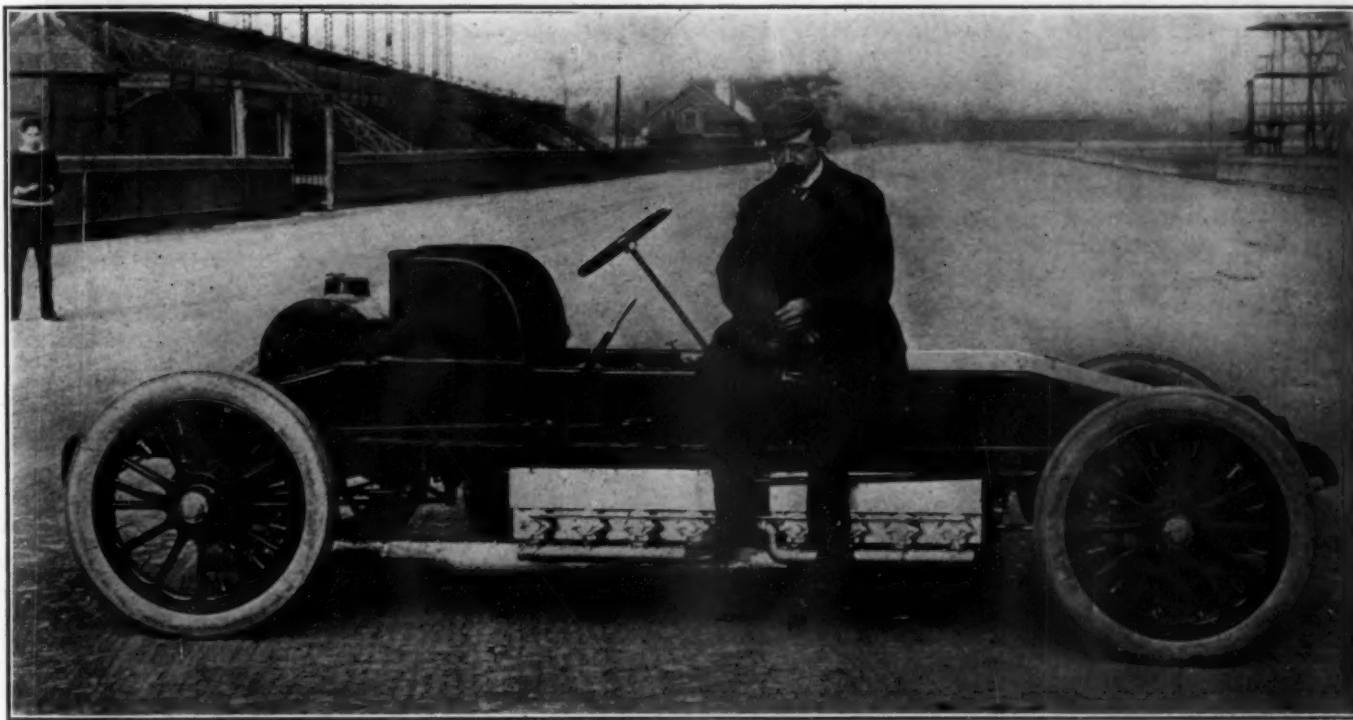
Saturday afternoon, Mr. Winton took the big car out alone on Lake Boulevard, in Lakewood hamlet, and turned it loose for a straightaway mile. There was no way of timing, but it is believed that he did better than sixty miles an hour.

Heretofore all inquiries relating to the details of the new racer have met with poor results. Hardly anyone about the

cared to go into detailed descriptions, and do a lot of bragging about how fast it would go, because I knew nothing about it. I do not know yet, for that matter, because the trial on Glenville track yesterday was simply to determine how far I could run at high speed with the gasoline supply carried in the tank. The tank holds twenty-two gallons when full, and I carried with me a load of five gallons for the trial. Starting cold, this five gallons lasted fifty-three miles, and we covered the distance in slightly over an hour, so I am safe in figuring that we can run 200 miles on a full tank of gasoline."

IN WINTON'S EXPERIMENT SHOP.

Mr. Winton led the way to the isolated building at the big plant where all his experimental work is done. Lined up in a



ALEXANDER WINTON AND HIS NEW EIGHT-CYLINDER GORDON BENNETT CAR ON GLENVILLE TRACK, CLEVELAND.

monstrated that it possesses more power and speed than any of the previous machines built by America's premier racing man.

Last week Mr. Winton obtained permission to try out the new car on the Glenville track, where he made his previous best record of 1:02 3-4. He made no attempt to break records, his chief desire being to thoroughly warm up the machine and get all working parts in order. He made one steady run for an hour, and in that time circled the mile track fifty-two times. Horsemen who watched the try-out and timed some of the miles, say that one of them was made in 1:02, but most of the circuits were made at a uniform speed of 1:20. Mr. Winton declined to open the machine wide for a record-breaking trial, because he did "not care to tear up the track." But on

factory, with the exception of Mr. Winton, and two or three trusted assistants, had ever seen the machine, and from them no information of any kind could be obtained. But when asked to-day for the details by the representative of THE AUTOMOBILE, Mr. Winton promptly replied: "Certainly. I don't care who sees the inside of the machine from now on, for I am satisfied she is the fastest and most powerful I have ever built, and if I don't win, it will be because of accident or because someone else has a faster machine. And, by the way, I want to say to you that this talk of secrecy and mystery is all rot. As a matter of fact, there is nothing new or novel about the car, and you can describe it briefly and accurately by saying it is four standard Winton touring car outfits in one body. That is about all there is to it. I have not

row as if awaiting the starter's signal, were three rakish looking cars, all the same color, and having the same general lines. The first was the famous "Bullet," hereafter to be known as "Bullet I." The second bore a tag "P. O." "That's the post office machine," said a small boy who had invaded the sanctum, but it was the car in which Percy Owen hopes to beat his chief and carry off the international trophy. The third, "Bullet II," seemed longer and heavier than the "post office" machine, but it closely resembles the car built for the New Yorker and tried out at Garden City, Long Island. The only difference that was apparent was that "Bullet II" has a circular tank back of the seats whereas Owen's machine has not. But more important differences were apparent when the floors of the two machines were lifted out.

DETAILS OF CONSTRUCTION.

Bullet II has eight horizontal cylinders arranged transversely in two batteries of four each at the front. The space between the two batteries is about eight inches wide, and here are located the union connecting the two sections of the shaft, which runs clear through, the wires to the spark plugs, and the carbureter, and above these is the spark breaker box. This is similar in design to the breaker box used in the standard touring car, except that there are eight contacts instead of two. The carbureter is identical with the standard, the only difference being that it has to work harder. It supplies a constant flow of mixture instead of operating intermittently. The speed of the machine is controlled by advancing the spark lead, which is accomplished by advancing a small lever. This operates through bevel gears to turn the whole commutator box, advancing the time of explosions. There are two spark coils, one for each battery of cylinders, and current is supplied by a single storage battery. The cylinders are 5x6 inches, and calculating the cubic area in the cylinders, it may be stated that Bullet II is three-eighths more powerful than the Bullet I, and exactly twice as powerful as Owen's machine, which, however, has the advantage of weighing only 1,400 pounds, while the latest Bullet weighs 2,150 pounds.

"I do not know which is the faster," said Mr. Winton, speaking of the two machines. "I should not be at all surprised if Owen could beat me, but of course the new Bullet will stand more hard knocks. In designing the two machines, I desired to know which type was the faster; whether it was better to sacrifice power for weight or to figure out the amount of power required for a certain speed regardless of the weight.

DRAWS LESSON FROM BOAT RACE.

"You remember the steam boat race which attracted great attention on the Great Lakes two years ago. The *City of Erie* had 6,000 horse power, while the *Tashmoo* had 2,500 horse power. To the casual observer it looked as if the *Erie* would have an easy time of it, but the man who knew, the man who designed both boats, was unwilling at any time before the race to make a prediction. As it was, if I remember correctly, there was less than half a minute between them in a 100-mile race. So I am unwilling to compare the two machines; but I don't think I have taken the advantage when I decided to build two types for this race."

The eight cylinders of Bullet II drive on one shaft at the left side of the machine. On the other side and projecting beyond the frame, are the cylinder heads. These can be removed easily by taking off four bolts in each. At the top of the cylinder heads are the spark plugs, also projecting slightly beyond the frame.

These are protected, however, by a slide that is easily removed. The cylinders themselves are of cast steel, but the jackets are aluminum. The water tank rests on the forward battery of cylinders, and is really a part of them, the water in the tank flowing around the cylinders. Attached to the main shaft to the left of each battery of cylinders is a standard touring car centrifugal pump. Both work into the same line, forcing the water forward to the radiating coils in front. These are of the standard type, but of course have a greatly increased radiating area. "How much more" was one of the few questions which elicited only a pleasant smile. The pistons and connecting rods are all stock touring car parts, as is also the oiling system, except that there are two oil boxes provided with wick feeds instead of one. There is but one fly-wheel, at the end of the shaft, and it weighs but seventy-five pounds.

OPERATION AND CONTROL.

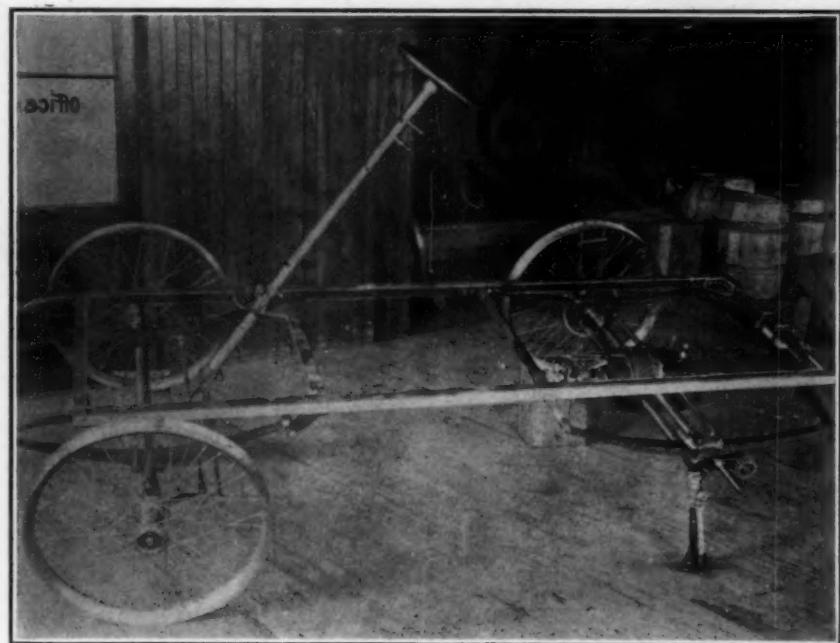
Ordinarily the car starts and operates entirely on the high speed, which gives direct drive to the rear axle by means of a jointed shaft and bevel gears. The motors have a minimum speed of 100 revolutions per minute and it is claimed will go as high as 1,000 revolutions. There is a slow speed both forward and backward, but this will be used only when it is desired to reverse or on very severe grades.

The reverse gear is attached to the high speed friction clutch. There is an exceedingly powerful braking system, consisting in reality of five brakes. There is a band brake on the fly-wheel, and band brakes on the inside and outside of both the rear wheels. A foot pedal applies the inside brake bands on the hubs and at the same time applies the brake on the fly-wheel. The high-speed lever disengages the high-speed clutch and applies the brakes on the outside of the hubs. The entire mechanism is hung from a wooden frame trussed with steel. The wheelbase measurement is 9 feet 6 inches. The exhaust is carried through an iron pipe below, and incidentally it may be stated that when up to gait the latter will cause a gatling gun to turn green with envy.

While Mr. Winton was trying his new racing machine on the track Mrs. Winton stood by the big gate, intently looking on.

WINTON PARTY SAILS MAY 30.

Mr. and Mrs. Winton will sail on May 30 on the *Campania*, accompanied by Mr. and Mrs. Z. Davis and Percy Owen. Mr. Winton will take but one car for his own use in the Gordon Bennett, but will also take a lot of duplicate parts, tires and fittings. The Bullet II and Mr. Owen's racer will go direct to Dublin, where they will be gone over thoroughly before the race, the mechanicians and operators sailing on May 23 on the *Etruria*.



RUNNING GEAR AND TRANSMISSION OF THE TORBENSEN SYSTEM.

By an unaccountable error in the technical process of newspaper "make-up," an incorrect engraving was printed in our issue of May 9 on page 500, as "Fig. 1—Running gear and transmission system" of the Torbensen gear. The engraving was not that of the Torbensen gear, and

we therefore print herewith the correct reproduction of a photograph of the gear. A reference to the text of the article and the other engravings and drawings that appeared with it will make the construction here shown perfectly intelligible to the reader.

Correspondence

Suffolk Shuts Out Autos.

Editor THE AUTOMOBILE:

Sir:—I enclose you a letter that may make reading matter for your paper.

J. F. HERMAN.

Richmond, Va.

MR. J. F. HERMAN, Richmond, Va.:

Dear Sir:—Replying to yours of 3d inst. Yes, our progressive and up-to-date council has shut out the automobile. I enclose copy of ordinance and clippings of Norfolk papers. Local and public sentiment seems to be very much against the ordinance, and I should not be surprised if it were repealed at the next meeting. I do not know of a single instance where a horse has been seriously frightened or any damage been done. Horsemen do not like its introduction and exaggerate every little detail. As a matter of fact I had turned the machine over to Mr. Lilliston, manager of the machine shop, and the ordinance seemed to be aimed at him. While I ran it myself nothing was said about it. Unless the ordinance is repealed or amended Mr. Lilliston may wish to dispose of it, as he bought it for business purposes wholly and may take advantage of your very kind offer of assistance. In the meantime I sincerely trust the automobile journals of the country will take the subject up and roast Suffolk, Va., as she deserves. The machine is in beautiful running order and my man, Mr. Waters, has acquired splendid control of it, mak-

tricity or steam as a motive power which makes or produces any sound or noise liable to frighten horses shall be propelled on or through the streets of the town of Suffolk.

Any person violating this ordinance shall be liable to a fine of not less than \$10 or more than \$20 for each offence."

This ordinance shall be in force from its passage.

Teste:

S. M. LAWRENCE, Clerk of Council.

Petroleum Distillate.

Editor THE AUTOMOBILE:

Sir:—Will you please answer the following queries: What is distillate, where can it be procured and at what price? Will it work in a two-cycle gasoline engine?

Galveston, Texas. E. H. LABADIE.

Distillate is the trade name for one of the constituents of mineral oil in its raw state and is used in oil refineries for the production of the lighter hydro-carbons. It is not sold at retail, so far as we know, and could only be procured with great difficulty; out of all proportion to any advantages which might be derived from its use. As a matter of fact the ordinary store gasoline will answer all the purposes of distillate and costs very much less.—Ed.

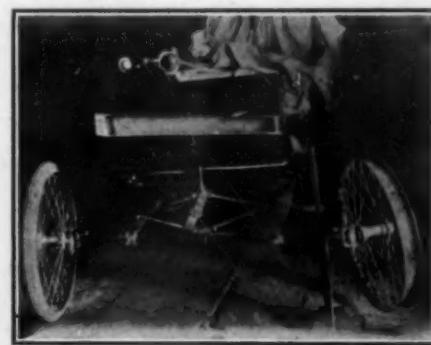
A Water-Proof Machine.

Editor THE AUTOMOBILE:

Sir:—I am sending you with this letter a photograph of my White automobile, taken while I was running it at Stockton during the flood this spring. I was going unconcernedly along, when a photograph-

had considerable amusement laughing at my gasoline friends about their "keeping dark" at that time. I have wondered to myself how many short circuits to the square inch a gasoline carriage would have developed under the same circumstances?

I have been very much interested in the discussions which have been growing up concerning the relative merits of steam and gasoline cars; but for my own part I am a staunch steam advocate. I may be somewhat prejudiced, but the semi-flash boiler in my carriage generates steam almost instantly, and it will not only not explode nor burn, but I have no water-



WRECK THAT TRAVELED 4 MILES HOME.

glass to watch, and consequently am relieved of those annoyances and inconveniences which too often attend the ordinary steam vehicle. GEORGE T. SALBACH.

Stockton, Cal.

Home Without Assistance.

Editor THE AUTOMOBILE:

Sir:—I herewith enclose you a photograph which shows a wreck caused by being run into while traveling about 12 miles an hour. The cause of the trouble was a horse and light runabout. The damage to my machine consisted of the axle being sprung 3 inches, knuckle joint twisted so wheel stood on an angle of 60 degrees, both sills of the body broken and front board also broken. The steering handle was twisted at almost right angles and still with these damages I was able, after turning my machine around, to start the same and run by its own power some 4 miles to my home. The horse vehicle fared even worse than I did as it was so badly damaged that the occupants were forced to leave it for repairs and walk home. H. M.

Albany, N. Y.

An automobile lawn mower weighing 3,000 pounds has been delivered to the Commissioners of Van Cortlandt Park, New York. There are said to be but two others like it in the country, one of which is in use on the White House grounds in Washington. The mower is to be used exclusively in Van Cortlandt Park. It is six feet long and four feet wide, and it is claimed will cut the grass on thirty acres a day. It will be used on the golf 'inks and polo grounds, comprising respectively 130 and 70 acres.



ONLY AUTOMOBILE USED IN STOCKTON, CAL., DURING SPRING FLOOD.

ing trips to Portsmouth or anywhere else he wished to go. I enjoyed riding with him and the "boys" were anticipating lots of fun with it this summer. Yours truly,

GEO. B. WALTON.

Suffolk, Va., May 5.

At a regular meeting of the Council of the town of Suffolk, Virginia, held May 1, 1903, the following ordinance was adopted:

"Be it ordained by the Council of the town of Suffolk that no automobile, bicycle or other vehicle using gasoline, elec-

er hailed me, and wanted me to stop long enough for him to "snap" me. I pulled up, with the accompanying result.

I have noticed a number of pictures which you have printed of various automobile users and their carriages, and it strikes me that this situation is sufficiently novel to be of interest to your readers. I myself was sufficiently interested to have some of the photos struck off after they had been developed.

Mine was the only machine at Stockton that was out during this flood, and I have

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SATURDAY, MAY 16, 1903.

STRENGTH IN CONSOLIDATION.

The need of a strong national organization of motorists was never greater than at the present time. When motorists were few in number their presence on the road was not seriously objected to by other road users, who for such a length of time had had undisputed possession of the highways that they did not realize that mechanical traction was soon to destroy their monopoly. Now that the horse drivers have awakened to the situation they, very naturally, wish to perpetuate this monopoly by placing absurd and unreasonable restrictions on the motorists. Time would of course wear down this attempt to hinder the resistless advance of mechanical progress, but life is too short and the pleasures of motoring too great to wait for natural laws to supersede the unbaked products of legislative factories. Effective insistence on the rights of motorists can only be obtained by consolidated and united effort. Certain agencies are now at work among motorists that if directed toward this end would be of vast benefit to the sport and industry, and to the essential, if commonplace, utilities of the new vehicle.

A new constitution has been framed for the American Automobile Association, which admits to membership individual motorists, even though they may not

have membership in any automobile club. Heretofore the association has been composed of representatives of properly organized clubs. The other organization in the national field, the American Motor League, has always kept its membership open to individual motorists, without any regard to their affiliation with local clubs. In practice, the two organizations follow parallel lines, and the question naturally arises, why not consolidate and employ the combined energies of the two bodies in the common causes?

There is a great work to be accomplished, not only in the direction of securing equitable legislation for all road users, but in the practical field of convenience and comfort for the touring or traveling motorist. Among these outlets for the energies of a national body are: the publication of maps and driving instructions, the selection of hotels that will comply with certain reasonable requirements, the establishment of a chain of repair and supply shops on the main highways by agreement with the owners of reliable shops, the appointment of local counsel in the different States who will take care of the legal interests of tourists who may be "held up" by local regulations, framed to trap the innocent and unwary.

With the available material for a foundation a great national body could be built up which would fill all these requirements and command public attention and respect.

STICKLERS IN CUP RACE.

Latest reports place it doubtful whether the three Mercedes machines entered for the International Cup race will run or not. The rules of the event demand that the machines shall be driven by members of the clubs which they represent. The German automobile club demands that its members shall belong to that indefinable caste known as gentlemen, and the Daimler company, of Cannstatt, insists that its cars shall be driven by Baron de Caters, Mr. Hieronymus and Mr. Werner, and the latter gentleman wore jumpers and drew shop wages as a mechanic so short a time ago that the Duke of Ratibor, for the German club, feels constrained to believe that he is not eligible for membership—not even for the occasion. He would influence the Daimler people to select, for example, Foxhall Keene instead, but they are obdurate and insist on Werner; or else they won't play.

The temper in this little skirmish is not American, and in this we may glory, but it may have its German justification, though it is difficult to see what justification would not be equally apparent to Herr Maybach as to Herr von Ratibor. If we remember aright, one Hieronymus once conducted a Daimler car as paid chauffeur for the gentleman who is now president of the Austrian automobile club,

on the latter's bridal trip through Italy; yet the Mr. Hieronymus now in question is acceptable to the Duke and his fellow members of the German club. Has Mr. H.—if he be the same H. who piloted a Daimler car up Mt. Vesuvius for pay—been sanctified by prolonged contact with nobles, or does Werner, plain Werner, smoke a clay pipe or do other things objectionable according to the code?

The world is somewhat interested in getting to the bottom of this squabble and in having the little kink straightened. The Mercedes people may have little to gain and much to lose in the International race, and they may obtain a little additional mention by holding out for their point, but they can hardly afford to admit that they know of only three men who could pilot their cars to victory against two Panhards and one Mors, two Wintons and one Peerless, or even against the three new formidable go horse power Napier cars, now said to be under construction for the race, manned, as all these machines will be, with amateur drivers in good club standing.

LEAGUE AGAINST DUST.

Large problems are often attached most efficaciously by means which are not too brutally direct, especially if the overcoming of prejudices forms part of the problem and association is required for solving it. On this principle automobile clubs arrange contests and festivities to promote automobilism, but do not undertake to improve construction though improved construction is the most direct means for advancing the cause with which the clubs are identified. Similarly the bicycle did more for good roads than all direct but clumsy good roads agitation which preceded it, and the automobile promises to complete the work, in time, in so far as such road-building work is justified. On the other hand associations whose purpose falls only partially in line with the desires of motorists may accomplish more for the advancement of automobilism than all the clubs and societies which are banded together for asserting rights and securing special privileges and advantages for motorists alone. In this connection it seems worth noting that a "league against dust" is in process of formation in Europe with a view to gathering all the forces which may be interested in suppressing the dust evil on the high roads. Among the prime movers in this matter are Dr. Guglielminetti, an Italian physician who has been very active in the experiments with oiling and tarring of roads, and Ernest Cuénod, well known to New York motorists from his sojourn in that city last year. The league proposes to bring the dust problem to the front from the hygienic point of view as one in which all classes of the population should be equally concerned.

May 16, 1903.

THE AUTOMOBILE.

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Automobile and Motorcycle Races at Los Angeles, California.

Special Telegram.

LOS ANGELES, Cal., May 11.—The first automobile tournament in two years was held on the mile track here Saturday and Sunday, May 9 and 10. The attendance was about 4,000 on Saturday. There were nine automobile, six bicycle and six motorcycle events, all interesting. There was a slight accident in one bicycle race and a collision in the motor bicycle handicap.

A serious accident occurred Sunday in the automobile handicap. C. A. Hawkins, coast manager for the White agency at San Francisco, started at the quarter-mile post in a White stanhope. A false start and stop ran the steam pressure up to 800 pounds. At the three-quarter pole Hawkins changed hands in steering, taking his eyes off to open a valve. The machine swerved toward the pole. Hawkins felt the swaying of the machine, looked up and lost his nerve. Steering to the right he struck the outside fence. He was going at more than forty miles an hour, covering the first quarter in twenty seconds. The fence was crushed and Hawkins was thrown headlong ninety feet, landing on the grass. The machine turned two somersaults, landing fifteen feet from Hawkins. The front wheels and axle were thrown fully 140 feet and the rear wheels about 100 feet. Mr. Hawkins was badly bruised, but will recover. He was taken to the California Hospital.

SUMMARY OF SATURDAY'S EVENTS.

Two-mile steam—Walter Grothe, Cleveland, White, first; Frank A. Garbutt, Los Angeles, White touring car, second; C. A. Hawkins, San Francisco, White, third. Time, 3:12; fastest mile, 1:30 1-2, new Pacific Coast record.

Five-mile, gasoline, 1,500 pounds or over—Harry Turner, Los Angeles, Peerless, first; Ellicott Evans, Buffalo, Peerless, second; J. W. Carhart, Burbank, California, Winton, third. Time, 8:56 1-2.

Three-mile steam—F. A. Garbutt, White touring car, first; W. Grothe, White, second; C. A. Hawkins, White, third. Time, 4:28. Last mile, 1:27 1-2, again lowering coast record.

Three-mile, runabout, gasoline—F. E. Hughes, Detroit, Oldsmobile, first; W. G. Hansen, Pasadena, Tourist (made in Los Angeles), second. Time, 4:56 1-2. Fastest mile, 1:36 1-2, new coast gasoline car record.

Twelve-mile motor cycle pursuit race—R. C. Hamlin, 4 horse power Orient, first; Fritz Lacy, 1 3-4 horse power Sunset, second; Kranz 4 horse power Orient, third. Time, 17:52.

SUMMARY OF SUNDAY'S EVENTS.

Five-mile, motor cycle handicap—Lacy, Sunset, scratch, first; Hamlin, Orient,

scratch, second; R. H. Kranz, Orient, 200 yards, third; A. Hozsey, 1 3-4 horse power California, seventh-eighth mile, fourth. Time, 6:30. Fastest mile, 1:14 1-2. State and coast record.

Five-mile Oldsmobile owners' race—M. Skinner, Fullerton, first; Fritz Lacy, Los Angeles, second; Charles Collinge, Riverside, third; J. W. Mills, Los Angeles, fourth. Time, 11:39.

Five-mile, steam—Grothe, White, first; C. A. Hawkins, White, second; C. White, White, third. Time, 8:52.

Ten-mile motor bicycle match—R. C. Hamlin, Orient, first; C. W. Risden, Indian, second. Time, 13:32 1-2.

Five-mile gasoline runabouts—W. G. Hansen, Tourist, first; F. E. Hughes, Oldsmobile, second. Time, 7:59 1-2. First mile, 1:34, again lowering coast record for gasoline cars.

Five-mile automobile handicap, all styles—W. Grothe, White, scratch, first; W. G. Hansen, Tourist, 1,420 yards, second; C. Collinge, three-quarters mile, third. Hawkins would have won except for the accident, as he had a quarter-mile handicap. Time, 7:17 1-2.

New Constitution for the A. A. A.

A new constitution and by-laws and new racing rules have been drafted by committees of the American Automobile Association to be presented for approval and adoption to the executive committee of the organization on May 12. Some very radical changes have been made, amounting to almost a new constitution. Until they have been passed upon by the executive committee, however, no information regarding the changes will be made public.

October Reliability Run to Montreal.

Montreal has been selected as the objective point on the outward trip of the next reliability run of the Automobile Club of America, to be held in October. The contestants will start from New York and return to the same point, covering in all a distance of about 800 miles. Nothing definite beyond this has been decided upon by the contest committee of the club. Careful examination of the possible routes is now being made by inspection of accurate maps, correspondence and otherwise, and it is not unlikely that the outgoing route will go through Connecticut, Massachusetts and Vermont. Coming home the route may be by way of Albany and along Lake Champlain.

It is probable that the run will follow ordinary touring conditions more closely than that held last year. Only night controls may be established and a minimum

rate of speed established. The maximum rate will, of course, comply with the local regulations of the districts passed through.

ENTRIES FOR THE HEAVY VEHICLE A. C. A. CONTEST.

Twelve entries had been received by the Automobile Club of America up to last Monday for the Commercial Vehicle Contest set for May 20 and 21. Of this number five are for class 2, for vehicles carrying a dead load of 1,500 pounds, and these entries are all designated as delivery wagons. The International Motor Car Co. enters an electric delivery wagon (Waverley), Grout Brothers a steam wagon, the Knox Company two gasoline wagons, and the Empire State Engineering Co. one gasoline wagon. Class 3, for loads of 3,500 pounds, will have a stake truck and a baggage express, both gasoline vehicles and both made by the Union Motor Truck Company, whose power-transmission mechanism differs widely from the ordinary, and a gasoline stake truck made by the Motor Truck Co. will also be in this class. In class 4, for 6,000 pound loads, only two entries are recorded, one being a steam truck from the Morgan Motor Company and the other also a steam truck entered by Arthur Hirschmann, connected with the Adams Express Co. Mr. Hirschmann enters another steam truck in class 5, for loads of 10,000 pounds, where it will compete with a Coulthard steam truck, British-made, entered by this company's American representative, John Gardner, of Boston. No entries for classes 1 and 6 were received, but the lists remain open up to and including May 18.

Regulations for Chauffeurs.

Rules for regulating the conduct of chauffeurs have been adopted by the American Automobile Association and will be also approved by the National Association of Automobile Manufacturers at an early date. Under these rules no payments of commissions to chauffeurs can be made by garage proprietors or dealers on the sale of machines or on the cost of repairs and supplies. Garage keepers are also required to inquire minutely into the agreements existing between chauffeurs and owners so that the unauthorized use of vehicles may be stopped. A list of responsible chauffeurs is to be kept at each garage, and in other ways the interests of the owner are looked out for.

July 4 Race Meet in Washington.

Plans for the holding of automobile races in Washington, the National Capital, on July 3 and 4, are being considered by the Washington Automobile Dealers' Association.

Among the late entries for the Paris-Madrid race, May 24-26, cablegrams mention the name of W. K. Vanderbilt, Jr.

Hearing on the Doughty-Bailey Bill.

Special Correspondence.

ALBANY, May 9.—About thirty representatives of automobile owners and manufacturers assembled in the Executive chamber last Wednesday afternoon to inform Governor Odell why they did not want the Bailey automobile regulation bill signed. Congressman Townsend Scudder, Ex-Senator W. W. Cocks and half a dozen others were present to defend the bill and ask that it be signed for the benefit of the residents of Nassau County in particular and the rest of the State incidentally. Among those present were: Delancy Nicoll, Professor Terry of Columbia Law School; "Colonel" Abe Gruber, Senator H. W. Hill of Buffalo; M. J. Budlong, president of the National Association of Automobile Manufacturers; Oliver A. Quaile, Charles M. Page and C. M. Hyatt of Albany; S. C. Tallman of Auburn; C. A. Benjamin, Hurlburt W. Smith, F. H. Elliott, C. Listman, John Quigley and H. W. Walters of Syracuse; Percy Owen, Cipriano Andrade, Jr., and Isaac B. Potter of New York City; and Charles Clifton, George S. Metcalfe, John S. M. Satterfield and Dr. Lee H. Smith of Buffalo. Dr. Smith acted as spokesman for the opposition.

Congressman Scudder led the argument in favor of the bill. J. L. Brower and Cyrus Clark of New York, with Senator Bailey and Ex-Senator Cocks of Long Island, were present to give the Congressman from the Second District countenance, but did not materially bolster up his argument.

ARGUMENTS AGAINST THE BILL.

Delancey Nicoll said he and Colonel Gruber were present to represent not the users, but the makers of automobiles. He appeared for the National Association of Automobile Manufacturers in opposition to the bill. There is more than \$100,000,000 invested in their plants and stock and they are therefore interested in what affected their trade, he said. Their product for 1903 is valued at \$26,000,000. It is a growing industry. In the past nine months the automobile export trade has nearly doubled. The question is, Shall the State stop this growth and probably put an end to this business by such legislation? If he read the bill aright, he said, it is a blow at the industry from which it could not recover. It is inconceivable that anyone would want to own and use an automobile under the conditions which would be imposed if the bill should become a law. He cited the provisions of the present law, which he said were broad enough and drastic enough and afforded abundance of law protection in the highway law and the penal code for the regulation of automobiles. He had three objections to the bill. It would be possible under it to reduce the speed at which an automobile could run to eight miles an hour, particularly

on Long Island where the post offices are but four miles apart. Mr. Nicoll read the section of the bill providing that sign boards could be erected at distances half a mile from the postoffices and that local authorities could limit the rate of speed beyond that half-mile limit where there are partly built up sections and make the general rate of speed eight miles or less.

The Governor interrupted to ask if the law did not force the steam railroads to run at a rate of eight miles an hour in Syracuse.

Mr. Nicoll, at the prompting of Colonel Gruber, replied that that was in the city, but he was speaking of the slow rate of speed that the country local authorities could impose. He asked in return why anyone would want to buy an automobile when a horse could go eight miles an hour without all the restrictions of this proposed law. He objected to the bill for the outrageous and remarkable punishments it sought to inflict for violation of any one of twenty-one provisions of the act infraction of which was a misdemeanor until repetition made it a felony. He read the list of penalties and dwelt upon the confiscation of the automobile and the sending to jail of the offender who had transgressed three times and committed such a crime as going past a horse at a speed of more than eight miles an hour, having his lamp out, or passing a school house at a speed of eight and one-quarter miles an hour, which would give the magistrate before whom he was brought no option but to send him to prison and forbid him to use his automobile again. Even in cases of felony the magistrates have the power to exercise discretion, but for these awful offenses no discretion is permitted. Then, too, the law is defective in that while it gives the Secretary of State power to issue licenses to chauffeurs for thirty days and certificates to owners for the same time, the Secretary had no power after that to issue a license or certificate unless one bought an automobile. The bill provides in its stringent penalty clause, for taking a citizen's property without due process of law.

POKED FUN AT THE MEASURE.

Colonel Gruber drew a verbal sketch of a New Yorker trying to get through Westchester with his machine under the proposed act, and failing to toot his horn four times at one village and three times at another, and told how many misdemeanors could be committed without any intent to do wrong and dwelt upon the severity of the penalty. He called attention to the fact that "domestic animals" include anything from the horse and cow down to the family cat which might stray upon the highway and of which the motorist must beware lest he rush by at a

greater rate than eight miles an hour. He insisted that the placing of such laws among the statutes is an incentive to their non-enforcement and places a premium on their violation.

Isaac B. Potter, president of the American Motor League, declared the bill is full of inconsistencies; that it provides that in New York City there shall be a limit to speed ordinances, but that the law could be interpreted to read that in other cities the local authorities could reduce the speed limit to as low as four miles an hour. He also paid his respects to the provision to authorize the supervisors of any county to set apart a portion of any highway for speed contests or road races and said that there is not one automobilist in 10,000 who really wants that provision, while not a farmer wants it and when they see it in operation and a road barred to the public while some wealthy motor vehicle owners use it for a race course there will be trouble and lots of it.

SUPPORT FROM LONG ISLAND.

Congressman Scudder made the argument for the bill and answered many of the attacks that had been made upon it. He declared the present law a gold brick which had been designedly made unbreakable. His association (the Long Island Protective Association) had secured forty-two convictions where the speed was not under twenty-three miles an hour, yet it was but an incident of the sport for the wealthy owners of the machines to pay \$25 and go on to repeat the offense. The bill is not an attack on automobilists, but a check to recklessness. The license provision for chauffeurs which had been criticised is but to place such operators in the responsible position of the marine engineer who would not disobey the regulations for his craft because his license and livelihood would be taken from him for so doing. It made him careful, and this is what the present bill seeks to make the hired chauffeur. The charge that the Secretary of State could not issue a license or a certificate after the first thirty days he said was too absurd to answer.

Mr. Scudder said that most of the objections voiced at the hearing were to provisions which had been insisted on by the officers of the Automobile Club of America, of which 107 members out of a membership of 500 had since got together and denounced the bill. The provision about domestic animals was not his, but the club's suggestion.

Mr. Brower presented the Governor with a scrap book full of newspaper clippings of automobile accidents and explained some of its features. Ex-Senator Cocks spoke for the Long Island farmers in favor of the bill, and Senator Bailey spoke for the bill he introduced.

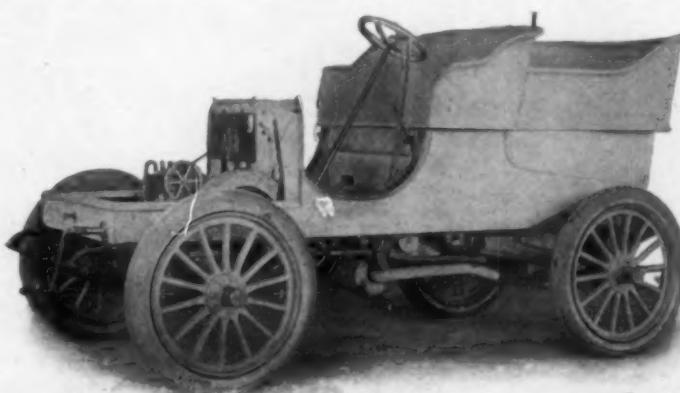
The Governor gave the attorneys on both sides till next Wednesday to submit briefs on the legal aspects of the bill, and the hearing adjourned.

Haynes-Apperson New Tonneau Type Car.

A surprise for the majority of motorists has been prepared by the Haynes-Apperson Company, of Kokomo, Ind., in the form of two new models varying considerably from the time-honored designs previously turned out by this pioneer firm. One of them is a tonneau, the other a phaeton. The accompanying illustrations show the tonneau chassis in a front view, looking down, and the same car ready for upholstery in "King of the Belgians" style. The motor, it will be noticed, is of the usual Haynes-Apperson type, consisting of two opposed cylinders placed lengthwise of the car, the foremost one extending to the extreme front, while the rear one reaches well toward the middle of the vehicle. This brings the crank case, the gasoline tank, the lubricator and the ignition system under the hood so as to be very readily accessible. The lubrication seems to be on the forced feed and multiple tube principle, actuated by a pulley belt-driven from the motor shaft, so as to feed in proportion to the speed of the engine. The motor is cranked from the front by means of a rod with bevel

middle of the car, and from this is again transmitted by a short chain, also of the Renold pattern, to the speed-change shaft, a little farther back. The reduction gears on this shaft are apparently at rest when the car is driven on the high speed. From

at the rear, running along the left side of the vehicle. The speed-change gear is operated by a lever under the driver's seat convenient to his left hand, the band brakes on the rear wheels by a side lever, and the throttle and ignition apparently



HAYNES-APPERSON TONNEAU—OPPOSED MOTOR IN FRONT.

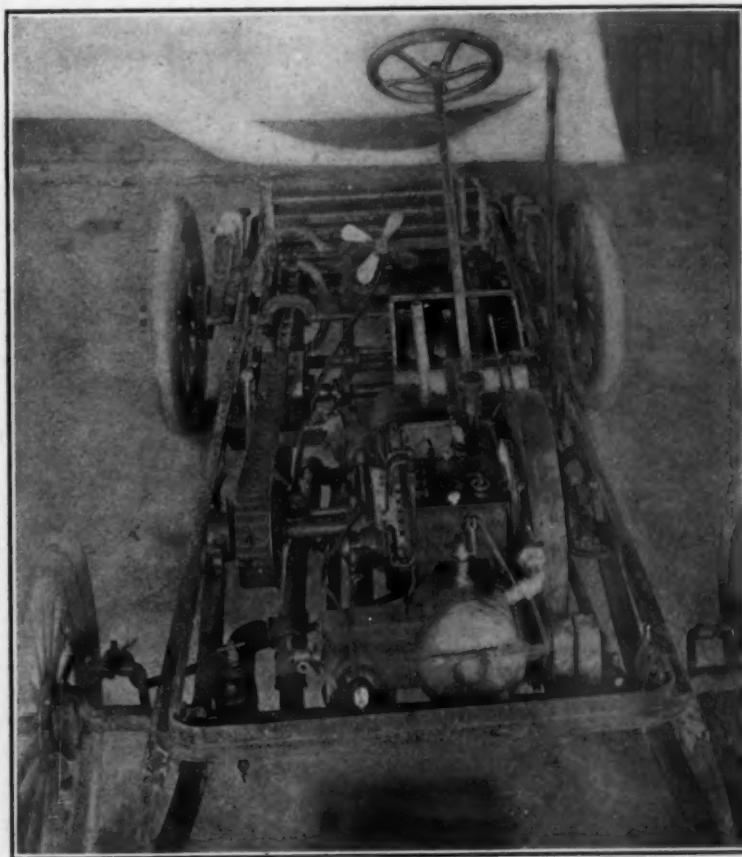
the speed-change shaft the power reaches the rear axle and differential gear by an ordinary chain and sprocket near the right hand side of the vehicle. The radiator is at the extreme rear under the tonneau and is of the flanged tube pattern. Air is

by pedal action, since no handles are visible on the steering wheel. A block brake seems to be fitted to act on the flywheel of the engine.

As soon as an opportunity is offered for inspecting these new cars or examining detail drawings of the same the possible errors in the foregoing description—taken entirely from photographs—will be corrected and further details supplied.

H. S. Harkness Goes Abroad.

Harry S. Harkness sailed for Havre, France, on the *Savoie* last Wednesday, taking with him the new racing car and which he built with a view to competing for the Gordon Bennett trophy as a member of the American team, and also the 45 horse power red Mercedes-Simplex which he drove at the Brighton Beach and Glenville race meets last fall. He had also had his small German car crated, but sold it afterward and left it behind. The American built racing car had been gotten into excellent condition, every detail having been carefully finished, the cylinders polished and all adjustments made. The car is of remarkable appearance, being built very low with a hood almost as long as the 109-inch wheel-base, and the driver's seat almost directly between the rear wheels. It has a four-cylinder upright motor of 70 horse power resembling the Mercedes motor, but embracing a number of original ideas of Mr. Harkness, including a multiple jump spark ignition and governing mechanism. Mr. Harkness is entered for a number of the foreign events of the year, the first in which he will compete being the Paris-Madrid, which starts on May 24.



CHASSIS OF HAYNES-APPERSON TONNEAU—FRONT VIEW.

pinion meshing with a gear closely outside the flywheel on the engine shaft. Power is transmitted by a Renold silent chain to a transverse countershaft journaled in the angle iron frame at about the

driven rearward through it by a fan operated, according to the illustration, either by a flexible tube from the cam shaft, or electrically. The water-cooling tubes reach from motor in front to the radiator

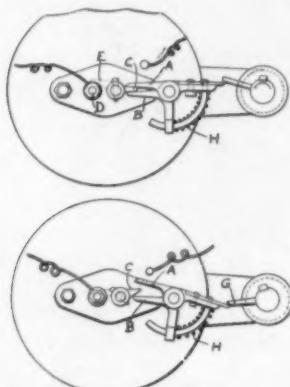
The Automobile & Motor Co., of Syracuse, N. Y., has been incorporated to manufacture automobiles, motor bicycles and automobile sundries. The company has secured the Olive wheel plant.

Patents

Primary Igniter.

No. 727,399.—E. Maerky, of Philadelphia, Pa.

A quick-acting igniter requiring but one spring. In the first position shown



MAERKY PRIMARY IGNITER.

the jaws *A* *B* pinch the finger *C* on the outer end of the rocking stem *D* in such a way as to prevent the dotted electrode *E*, on the inner end of *D*, from making contact with the insulated electrode *F*. In the second position the movement of the revolving wiper *G* has forced *E* into contact with *F*, and has compressed spring *H*, release of which will cause an abrupt separation of the electrodes.

Controlling System.

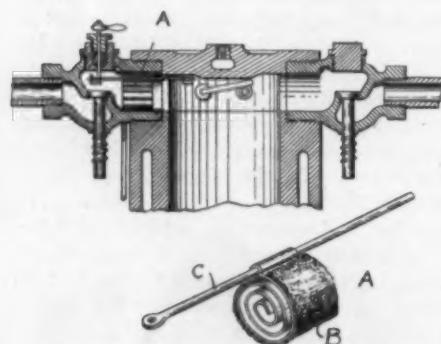
No. 724,767.—W. O. Worth, of Chicago, Ill.

An arrangement of concentric tubes on the steering column, operated by hand wheels one below another, and connections at the lower end by racks and pinions and by a wind-up cable on a drum.

Incandescent Igniter.

No. 727,158.—J. S. Lang, of Boston, Mass.

An open coil of sheet metal *A*, located in the path of the exhaust gases and pro-



LANG INCANDESCENT IGNITER.

tected from radiating its heat to the surrounding metal by a non-conducting covering *B*, attached either to *A*, as in the detail sketch, or to the metal walls them-

selves as in the sectional view. To vary the timing of the ignition, *A* is attached to the rod *C*, movable by the mechanism shown. To start the engine an ordinary electric or hot tube igniter is used.

Flash Boiler Systems.

No. 726,442.—A. F. MacDonald, of Schenectady, N. Y.

A system including a water pump and a full pump suitably proportioned and connected together for simultaneous operation, and a thermostat, preferably exposed to the fire rather than to the steam in the boiler, which thermostat operates simultaneously on by-pass valves connected to the two above-named pumps. The valves are of the piston type, and act gradually instead of abruptly, so that part of the liquid may be flowing to the boiler or fire, and part back to the tank. Modified arrangements provide for hand regulation.

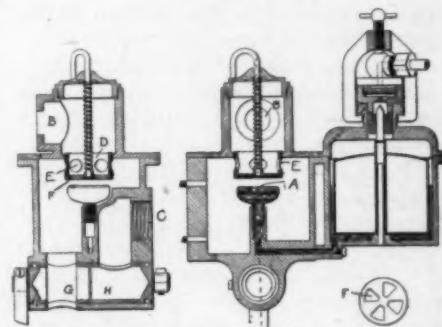
Flywheel Band Clutch.

No. 727,289.—F. Charron and L. Girardot, of Puteaux, France.

A substitute for the conical flywheel clutch.

The forward end of the connecting shaft *A* is connected through a universal joint *B* with a clutch drum *C*, journaled loosely

closed, and vice versa. The effect is to vary the sharpness with which the air current strikes the gasoline, according to the angular position of *D*, and consequently the amount of gasoline evaporated. The



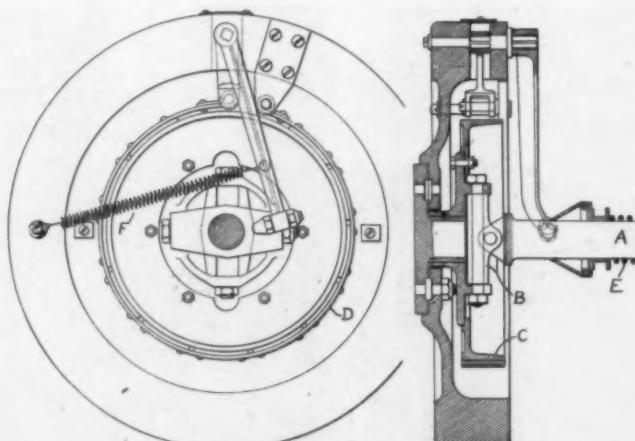
PETELER FLOAT-FEED CARBURETER.

intensity of the suction may also be varied by valve *G*, which may be set to cut off part of the carbureted stream and open a dilution inlet below. Valve *H* is a throttle.

Self Oiling Journal Bearing.

No. 727,319.—G. A. Ensign, of Defiance, Ohio.

A bearing in which the shaft carries a detachable collar *A*, which runs in an an-



CHARRON & GIRARDOT SUBSTITUTE FOR CONICAL FLYWHEEL CLUTCH.

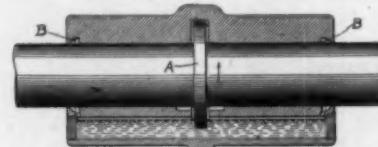
on an extension of the engine shaft. The flywheel itself carries a wind-up band *D* actuated by a thimble and lever of design familiar in this country. The clutch is normally engaged by spring *E*, and spring *F* is added to counteract the effect of centrifugal force on the lever, when the clutch is released.

Float Feed Vaporizer.

No. 726,986.—A. Peteler, of St. Louis, Mo.

In this vaporizer the spraying member consists of a flat plate *A* with a number of concentric circular grooves, and the air is drawn past it downward, entering at *B* and passing out at *C*. A valve *D*, just above *A*, is arranged with side apertures *E* and bottom apertures *F* (see detail figure). These are so disposed that when apertures *E* are open apertures *F* are

nular groove contracted at the top to wipe off the oil picked up by the collar. The oil thus wiped off runs down into suitable oil grooves and back to the oil



ENSIGN SELF-OILING BEARING.

well below. Grooves *B* are intended to cause the oil working out at the ends of the bearing to run down to the oil well instead of working out along the shaft.

So many automobile owners are guests at the Atlantic City hotels this year that special storage and repair quarters have been arranged by several of the hosteries.